Critical Analysis Team Follow-up Report on
Silos Project Configuration Management Issues

CAT Report Number 9

14 September 1999

The Critical Analysis Team (CAT) conducted a review of the document submittal and review process for the Silos Project. This specific review supplements a more general review completed in December 1998. For this effort, the CAT reviewed document control, distribution, review and storage processes . While the CAT review was quite specific, it was not comprehensive, and represents only a small sample of the Silos Project configuration management structure.

Since the CAT's first review of this subject, the Silos Project has made progress toward a more sound configuration management structure. This appears to be primarily a result of individual efforts on the part of project and document control personnel. For example, identification of primary and secondary reviewers, identification of the review processes and utilization of the ECDC document center are all positive steps. Also, the vendor data submittal lists included in the contracts for AWR and Silo 3 appear both comprehensive and clear. Still, the CAT has identified several areas in which the Silos Project could further improve configuration management.

Sound configuration management is essential to project success—particularly in the case of Silos where multiple projects must be managed simultaneously. Startup, contractor turnover, D&D, claims avoidance, Operational Readiness Reviews, and protection against litigation are just a few of the issues which increase programmatic risk if good review processes structured configuration management and involved management are not in place.

The CAT reviewed configuration management processes against four procedures: CT-2.4.2 Supplier Documents, ED-12-4011, Rev 2 Vendor Submittals, ED-12-5011, Rev3 Project Document Control, ED-12-6002, Rev 3 Redline/As-built Document Process. Generally, it appears that the Silos Project is meeting the intent of these procedures. However, the procedures are out-of-date and don't reflect either the current management organization or the current site functional organization structure (projects). As a result, noncompliance and instances where procedures are applied inconsistently are not difficult to find. To remedy this, the Silos Project should develop a set of project specific (desktop) procedures to provide simplicity, structure and consistency in data submittal reviews, comment resolutions and procedure compliance. Management must then enforce procedure compliance.

The links between the Silos Project and ECDC appear somewhat weak. For instance, it doesn't appear that all Silos Project telecons, meeting minutes or supporting engineering calculations are being received and entered into the ECDC system. Also, the specific

background information that bears on the project and its success is unlikely to be found in the ECDC. An example of this is the surrogate testing difficulties experienced during the Proof-of-Principle tests. This information could bear on future Silos work and should be included in the project record.

ECDC should *always* maintain the original copy of project documents–project personnel should not be allowed to control or keep these documents. Currently, the lack of application of proceduralization puts the onus on the project manager to ensure that ECDC is receiving all required documents and correspondence–in the current system, ECDC cannot identify which documents may be missing (particularly in the case of telecons and correspondence). Ensuring project documentation reaches ECDC is a responsibility of all project personnel. Procedures should ensure that all project documents and correspondence are routed to ECDC as a matter of course -and compliance with the procedures must be mandatory.

The Project Execution Plan (PEP) for AWR has not yet been completed. Finalizing this Plan is important since the PEP outlines project responsibilities, authorities and processes.

Given the existing review structure for Silos Project submittals, the CAT recommends two training efforts. First, personnel involved in reviews should be given training on claims avoidance and claims control. This will help ensure FDF doesn't inadvertantly cause claims situations. Second, lead reviewers should be trained in the distribution and assignment of reviews as well as processes for adequate resolution of comments. An example of this would be the use of a review checklist that ensure reviewers adequately address their assigned areas.

An important portion of the project is the collection of vendor data (e.g. operations, maintenance and laboratory data). FDF must ensure that this data is not only collected, but becomes site property at the conclusion of the contract. The data may be critical in verifying performance characteristics of the waste in the event disposal problems are encountered. The CAT is concerned that if a transition from the project organization to waste management takes place, the focus on important vendor data may be lost.

The Review Coordinator position in each Silo's Project is critical to the success of the document review process. Given this, FDF should cross-train those individuals assigned to these positions in order to assure consistency, continuity, communication and continuous coverage. A good example is the review matrices for AWR and Silo 3. Both projects could have benefited from training and coordination in the development of these matrices.

The CAT is pleased with the project's Action item lists outlining outstanding actions. Each action item should have a responsible individual assigned and an estimated closure date. These lists should be maintained and tracked throughout the project life and ultimately archived in the project file. The development of these lists would also have benefited from cross-training.

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The CAT recommends that FDF consider obtaining specialists for certain design reviews. Examples of critical specialty areas include constructability, radiation control and remote operations.

While the CAT feels the review process has improved, FDF Project Managers should conduct periodic audits of the process to ensure compliance with procedures, and verify that quality reviews and comments are being provided by the functional area reviewers. Based on the limited depth and breadth of some of the comments observed by the CAT, there was concern that document reviews may not be receiving a high enough priority. Project Managers must assure that comments are representative of each functional area organization.

Summary of Recommendations

RECOMMENDATION 9-1: FDF should conduct brief training sessions on claims avoidance, claims control, and the review and comment process.

RECOMMENDATION 9-2:Project management should ensure: (1) Procedures result in ECDC receipt and storage of all project documentation; (2) Original documents are not removed from ECDC; and (3) Compliance with procedures is mandatory.

RECOMMENDATION 9-3: FDF should develop a set of project level procedures.

RECOMMENDATION 9-4: FDF should consider obtaining specialists for design reviews in specialized areas such as radiation control, remote operations and constructability.

RECOMMENDATION 9-5: Project Managers should conduct periodic audits of document control, review processes and procedure compliance.

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CAT Report 1, Attachment 1:

Following are the personnel the CAT contacted and the documents reviewed in this review:

Cheryl Brown , AWR
Melissa Crews, ECDC
Bill Hensley, Procurement
Tish Mick, Silo 3
Karen Wintz, Silo 3
Dyan Rhea, ECDC
Kareld Solomon, AWR
AWR contract
Silo 3 contract
Procedure CT-2.4.2 Supplier Documents
Procedure ED-12-4011, Rev 2 Vendor Submittals
Procedure ED-12-5011, Rev3 Project Document Control
Procedure ED-12-6002, Rev 3 Redline/As-built Document Process
AWR Action Item List
AWR Submittal Review/Distribution Matrix
Silo 3 Submittal Review/Distribution Matrix
AWR Contract Submittal Review Process
Silo 3 Contract Submittal Review Process

RESPONSE TO COMMENTS
CRITICAL ANALYSIS TEAM (CAT) REPORT NO. 9
CONFIGURATION MANAGEMENT
SEPTEMBER 14, 1999

1. The Silos Project should develop project-specific (desktop) procedures to provide simplicity, structure and consistency in data submittal reviews, comment resolutions and procedure compliance.	In lieu of a project-specific procedure, each Silos project has developed a submittal review flow diagram (similar in nature), that incorporates the requirements of the five various procedures governing this process. The flow diagram shows the process for reviewing documents and addressing comments and identifies how the submittals are handled through ECDC. The flow diagram also identifies which procedures are being met by each step in the process. In addition, each Primary Reviewer and Secondary Reviewer in the process, received Reviewer Guidelines containing a Review Checklist which describes step by step the actions they are to take. January 2000, the flow diagram and Reviewer Guidelines will be redistributed to reviewers to reinforce the review protocol and expectations.
2. Management must enforce procedure compliance.	Fluor Fernald procedure compliance must be verbatim.
3. Ensure all information that could bear on future Silos work is in the project record (ECDC).	Project records are sent to ECDC. The Silos Division Records Management Program Coordinator (RMPC) is meeting with each team member to ensure that he/she knows what constitutes a record and to ensure that all records are sent to ECDC.
4. ECDC should always maintain the original project documents	ED-12-5001, Project Document Control (ECDC) is followed. On 11/5/99, a Quality Assurance surveillance (2001090) was conducted to ensure that Silo 3 Project documents and records have been identified and ECDC's operation of project document control is in compliance with the procedure. No nonconformances were found. On 11/16/99, two surveillances were conducted at RMRS on document control procedures. No nonconformances were found.

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5. Procedures should ensure that all project documents and correspondence are routed to ECDC and compliance with the procedures must be mandatory.	Same as #4.
6. Lead reviewers should be trained in the distribution and assignment of reviews and processes for adequate resolution of comments.	Primary (lead) reviewers identified those people in their functional area who would assist them in submittal reviews. An alignment meeting was held in February 1999 to brief reviewers. During the alignment meeting, Primary Reviewers were instructed how to distribute documents for review and what their role was in the comment resolution process. A checklist was also distributed to all Primary Reviewers identifying their responsibilities, step-by-step.
7. FDF must ensure that vendor data is collected and becomes site property at the conclusion of the contract.	Per the Silo 3 Project contract, RMRS is required to turn over all records to Fluor Fernald at the completion of the project.
8. Cross-train review coordinators to assure consistency, continuity, communication and continuous coverage. A good example is the review matrices for AWR and Silo 3. Both projects could have benefited from training and coordination in the development of these matrices.	The AWR and Silo 3 Projects worked together to develop the submittal review process, decided on the use of flow diagrams to govern the process, and have developed a common submittal review comment sheet, which is shared between the projects. To support continuous coverage, the Silo 3 Review Coordinator has ensured that a back-up person is available to handle submittal review coordination if needed.
9. The CAT is pleased with the project's action item lists outlining outstanding actions. Each action should have a responsible individual assigned and an estimated closure date. These lists should be maintained and tracked throughout the project life and ultimately archived in the project file. The development of these lists would also have benefited from cross training.	The individual responsible and action item due date are now listed for each item on the Silo 3 Project Management Activity Tracking Spreadsheet. At the end of the project, these weekly spreadsheets will be archived in ECDC.
10. FDF should consider obtaining specialists for design reviews. Examples of critical specialty areas include	Fluor Fernald is involving Silos Division Construction in design reviews, including rigging specialists to evaluate the design for

constructability, radiation control and remote operations.	lifting activities. Structural engineering support has also been obtained to review the gantry design. Fluor Fernald will evaluate bringing additional specialists into the project team.
11. FDF Project Managers should conduct periodic audits of the [submittal review] process to ensure compliance with procedures and verify that quality reviews and comments are being provided by the functional area reviewers. Project Managers must ensure that [submittal review] comments are representative of each functional area organization.	Self-assessments/audits of document control are conducted regularly to ensure that the project files are complete. The submittal process will be assessed periodically by the Review Coordinator to ensure that quality comments are being received from all functional areas.
Recommendation 9-1: FDF should conduct brief training sessions on claims avoidance, claims control, and the review and comment process.	An alignment meeting was held with all potential reviewers of Silo 3 Project submittals. The general submittal review process was explained, reviewers were informed of what, and what not, to review for (claims avoidance), and the comment and resolution portion of the process was described in detail. The communication process was explained, noting that only certain individuals have the authority to contact the Contractor. All Technical Direction must come from the Contract Technical Representative and all contractual communications must come from the Contract Administrator. Fluor Fernald provided a continuing education course on design/build/operate contracting methods for construction, engineering, and contracting personnel.
Recommendation 9-2: Project management should ensure (1) Procedures result in ECDC receipt and storage of all project documentation; (2) Original documents are not removed from ECDC; and (3) Compliance with procedures is	See item nos. 2 and 4 above.

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mandatory.	
Recommendation 9-3: FDF should develop a set of project level procedures.	See item no. 1 above.
Recommendation 9-4: FDF should consider obtaining specialists for design reviews in specialized areas such as radiation control, remote operations and constructability.	See item no. 10 above.
Recommendation 9-5: Project Managers should conduct periodic audits of document control, review processes and procedure compliance.	See item nos. 5 and 11 above.